

JUL 5 1917  
Vol. XXXIV, No. 6.

JUNE, 1917.

Whole No. 482

# THE AMERICAN JOURNAL OF OPHTHALMOLOGY

EDITED AND PUBLISHED MONTHLY BY  
**ADOLF ALT, M. D.**

ASSISTANT EDITOR.  
**W. F. HARDY, M.D.**

---

## CONTENTS.

---

Intraocular Hemorrhages and their Treatment. By DR. A. DARIER .....	161
Therapeutic Review .....	172

## MEDICAL SOCIETIES.

American Board for Ophthalmic Examinations .....	187
--	-----

## ABSTRACTS.

Extraction of Cataract from the Vitreous .....	188
Rarity of Sympathetic Ophthalmia after War Wounds .....	189
Chronic Dacryocystitis and its Treatment .....	190
Chronic Nephritis Simulating the Symptom of Cerebral Neoplasm .....	191
Department of Commerce—Bureau of the Census, Washington .....	194
Book Review .....	195

---

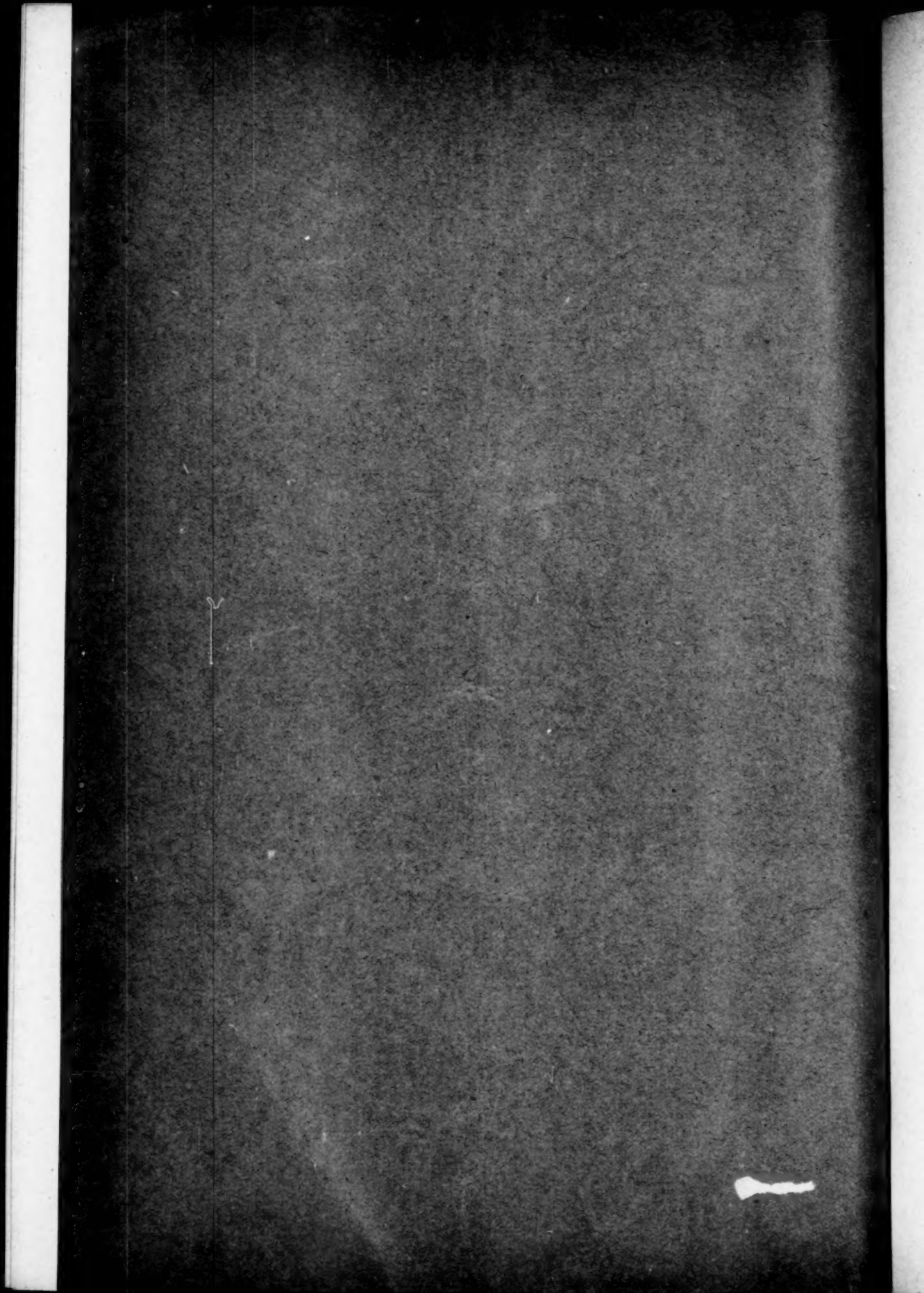
**SUBSCRIPTION, \$3.50 A YEAR IN ADVANCE.**

---

**316 METROPOLITAN BUILDING. ST. LOUIS, MO.**

---

Entered at the Postoffice at St. Louis, Mo., as Second-Class Matter.



# THE AMERICAN JOURNAL OF OPHTHALMOLOGY

VOL. XXXIV.

JUNE, 1917.

No. 6

## INTRAOCULAR HÆMORRHAGES AND THEIR TREATMENT.

### VITREUS HÆMORRHAGES, RECURRING HÆMOR- RHAGES IN YOUNG INDIVIDUALS, RETINITIS HÆMORRHAGICA, ETC.\*

BY DR. A. DARIER.

A. W. Ormond has read a paper before the London Ophthalmological Society in May which was very interesting. He tried to draw the attention of the audience to the possibility of bringing about the absorption of bloody effusions in the vitreous body. Aside from the cases in which a pathological ætiology existed previously (arteriosclerosis albuminuria, recurring hæmorrhages in adolescents) the author has given himself the task of clearing up this question in considering especially the numerous traumatic hæmorrhages in the vitreous body observed during the war in usually healthy individuals and in the flower of their manhood.

If the process by which the absorption takes place was well known, the absorption of the effusions of the blood into the vitreous body, the task to hasten the disappearance of the extravasation would be greatly facilitated. We can admit that the blood and lymph vessels are there to take up again the portions which are still fluid, while the red corpuscles and the coagulated fibrinous parts are removed by the leukocytes. Injected colored material is found much quicker in the urine than in the large lymph vessels. This shows that the most important part in absorption is played by the bloodvessels.

The red corpuscles are dissolved and the blood pigment is transported to the lymph current by the leukocytes. It is found in the lymph glands or on the walls of their vessels.

\*Clinique Ophthalmologique, 1916, No. 9.

Can we influence the dissolving processes by mechanical, physical or chemical means?

Or can we at least retard the coagulation of the extravasated blood? and prevent a total disorganization of the vitreous body by the invasion with fibroblasts? The author has worked with the following means: (1) massage; (2) ionization; (3) subconjunctival injections; (4) aspiration of the extravasated blood and its replacement by physiologic serum; (5) fibrolysin; (6) dionin; (7) iodide of potassium, and (8) radium.

(1) The mechanical action of massage gives the greatest hopes. Slight pressures against the eyeball through the eyelids, both lower and upper, with rotating and slightly vibrating movements is the best practice to stimulate the intraocular circulation, to excite the leukocytic function and to favor the separation of the coagula.

(2) The ionization is pretty difficult to control. It is applied by putting on the eyeball a compress of lint well moistened with a 1 per cent. solution of iodide of potassium. On this the patient holds a metallic electrode while the other pole is placed in the neck; then for several minutes a current of 2 to 5 milliampères is passed through, its direction being reversed at the middle of the session (3 times per week). This therapeusis seems to give good results, but they are probably due more to a local than to a general influence of the remedy.

(3) Subconjunctival injections may act by an irritating revulsive or reflex quality, stimulating the peri- and extra-ocular lymph current. Injections of potassium chlorate have been made every 2 or 3 days and if an improvement followed they were continued, if not they were stopped with the tenth. The favorable results are probably due solely to the mechanical action.

(4) Absorption of the extravasated blood has been tried twice by Ormond who removed half a cubic centimeter of vitreous fluid and replaced it with an equal quantity of salt solution. The pain and chemosis were violent, but not the least improvement resulted. In the two cases the vitreous body was perfectly full of blood and all vision was abolished. While no conclusions can be drawn from these two cases, they are neither apt to encourage further trials in this direction.

(5) Fibrolysin and thiosinamine provoke a large number of leukocytes in the blood which would seem to favor absorption, but the author does not state whether he has tried these remedies.



(6) Dionin applied to the conjunctiva causes a burning feeling followed by profuse lachrimation and chemosis, more or less marked, often accompanied by a swelling of the lids so that sometimes the eyes cannot be opened. From all this a considerable afflux of lymph all over the whole conjunctival surface; this powerful lymphagogue action produces a manifest activity in the intraocular nutritive fluids, which helps to absorb the exudates, as this has been proven by injecting colored fluids into the vitreous body.

(7) Potassium iodide. It is, so to speak, an axiom in therapeutics that potassium iodide is a solvent, but the experimental proofs are as yet very poorly demonstrated. What is certain, is, that iodine rather improves the metabolism of the blood plasma than acts directly on the tissue elements themselves. These latter are only secondarily influenced, perhaps, also indirectly through its powerful action in the thyroid secretion, which in turn acts powerfully on the young tissues (proof of this is found in the well known influence of potassium iodide in myxœdema and cretinism).

(8) The action of radium on the blood is beginning to become known. Chambon and Russ have found that the beta and gamma rays have no influence, while the alpha rays exert a remarkable hæmolytic action on the red blood corpuscles and at the same time alter the leukocytes which seem to flee from the irradiated regions. Trying to act on the elements of coagulated blood in the vitreous body we must fear that the alpha rays, which are very little penetrating, exert a noxious influence on the cells of the cornea or of the retina before reaching the effusion in the vitreous body. These are theoretic considerations; practice will show us perhaps that the hæmolytic action of radium applied to a beginning hæmorrhage may render the mass of blood more fluid and absorbable by dissolving the red and white corpuscles. Later on the radium may still exert a certain action on the fibroblastic cells, and prevent the formation of a clot. Koester has said that by employing radium he has obtained an improvement in hæmorrhages of the vitreous body. I have had the following case: sudden hæmorrhage into the vitreous body of a lady, 63 years old. After one month of treatment, by Heurteloupe, subconjunctival injections of calcium chloride, tincture of hamamelis, iodomain, etc., the fundus of the eye remained unilluminable.  $V = 1/100$ . Application of 0.20 radium of 11,000 U. for 3 hours. A week later considerable clearing up of the vitreous body.  $V =$

1/8. Second application for 3 hours. A week later  $V=1/3$ . After a third application for 3 hours  $V=1/2$ . Is here a relation between cause and effect? or simply a coincidence?

Ormond concludes that undoubtedly in certain cases the traumatic hæmorrhages into the vitreous body disappear completely, yet all of them have been treated by one method or another so that it is difficult to say in how much the improvement is due to a certain treatment. Yet it is certain that in several cases the treatment has shown its influence.

Aside from iodide, which by its indirect action has a certain influence on the blood, there is no remedy capable of provoking the absorption of a hæmorrhage. Massage, ionisation, dionin, and subconjunctival injections act purely mechanically. The aspiration of the extravasated blood and its replacing by salt solution is of little benefit. Fibrolysin may, perhaps, act by exciting leukocytosis; but the mechanical treatment is the most certain and the most active.

All of these remedies are certainly of real importance, but the most active and efficacious of all is certainly local bleeding, leeches, cupping and even a general bleeding in grave cases. It may be difficult to explain the action of these detractors of blood; the simplest explanation would be that the removal of a quantity of plasma and corpuscles will lead to a compensating absorption of blood extravasated in the neighborhood. Yet, we may be satisfied to see that at the end of these removals of blood an improvement in vision is very often quite rapid after each bleeding and especially when the hæmorrhage was recent. It is astonishing that Ormond has nothing to say about the really considerable influence of these bleedings on the absorption of intraocular hæmorrhages, whether traumatic or organic, especially when practiced before organization of the blood has taken place. This is the first of all things to do in the therapy of hæmorrhages into the eye.

Hæmatic therapy will be of the greatest service also; but in order to avoid serum disease and anaphylactic accidents it is best to use autoserotherapy, or, since favorable results have been obtained by profuse bleeding, we may aspire 50 to 100 cc. of blood from the vena basilica and at once reinject it under the abdominal skin. Thus we have a bleeding and an injection of autoserum. This can be repeated every other day or as long as useful.

The recurring intraocular hæmorrhages of adolescents must be studied separately. The beginning of this affection is very often

brusk. A large cloud comes before the eye veiling all objects. This cloud, at first gray, then for a while of a reddish tint, finally becomes more and more black. Light perception is sometimes abolished in the centre and better in the periphery and especially upward (central scotoma). The eyes are usually not simultaneously attacked. When the pupil is dilated we can see with the ophthalmoscope a bloody reflex and the lower part of the vitreous body is filled with thick floccules. Very often these hæmorrhages are preceded, accompanied or followed by epistaxis. Women are more rarely thus affected. Probably their menstrual flow acts as a safety valve. In some cases heredity was found. Cardiac hypertrophy is frequent; but the true cause lies in a change in the blood as yet little known and in a particular fragility of the bloodvessels and more especially of the veins, which are often tortuous and in places infiltrated. According to Panas these hæmorrhages in young subjects are venous, while in older people they are arterial. These spontaneous hæmorrhages in adolescents often come on in tuberculous individuals, even in the absence of tuberculous lesions in the neighborhood (choroid, ciliary body, etc.) In these patients there is a tubercular retinal periphlebitis which can be recognized with the ophthalmoscope in the form of small foci along the bloodvessels, typical tubercles with giant cells but without Koch's bacillus; there is an obliterating endophlebitis, the natural cause of the hæmorrhages. Aside from this we must remember the hæmolytic action of Koch's bacilli and the relationship between tuberculosis and the anæmic syndrome. Of course, this hæmolytic action is not exclusively attached to Koch's bacillus, many other infectious agents have the same faculty. The locality, also, plays a rôle in this question.

In the recurring hæmorrhages of the adolescents most of the remedies mentioned above may be made use of. The first indication, however, is furnished by the ætiological facts. In the first place the blood is subjected to a Bordet-Wassermann test. If this is positive the cure will be quickly obtained by intravenous injections of a mercurial salt which may easily be combined with a solution of chloride of calcium. Thus I inject once 3 cc. of anesol with 2 cc. of a 1 per cent. solution of calcium chloride every day. In hereditary syphilis the effect is very rapid. If the test is negative we must turn to tuberculosis; but in this case we must be distrustful concerning local reactions caused by doses of tuberculin which are too large; it is better, if there are strong indications in this direction, to institute a methodic and progres-

sive treatment first with the antituberculous serums, than the vaccins. It is quite advantageous to begin the treatment with a series of antituberculous serum injections, because these injections have a powerful hæmostatic action. This can be followed by tuberculin injections.

But if there is neither syphilis nor tuberculosis found we must think of malaria, purpura, the most varied intoxications, thyroid, suprarenal, hypophysial, hepatic, insufficiency. Opothrapy will furnish in these cases precious therapeutic indications. In hæmorrhagic glaucoma with abundant hyphæma Angelucci is said to have had good results with thyroidin. Dejan and Comemale have, also, obtained good results in hæmophilia.

In order to hasten the absorption of the hæmorrhages a great many medicaments have been employed. Iodine seems to have the most favorable action. The form in which it has seemed to me to be the most active is iodomaisin in almost homœopathic doses of 2 or 3 granules per day for 3 weeks. This medication has a diuretic influence which seems beneficial. In abundant hæmorrhages into the vitreous body a scleral puncture has not always a good effect. Before adopting any surgical interference the patient must be well prepared by increasing the coagulability of the blood by the means above mentioned, by decreasing his blood pressure as much as possible, and as soon as a puncture has been made a light compressive bandage is to be applied and a preventive bleeding is made at the temple.

We should also try to incite the absorption of such hæmorrhages by injecting a hæmolytic serum into the globe. This method has not received much support as yet; not daring to make an intraocular injection, I contented myself with two or three subconjunctival injections of a hæmolytic serum obtained from rabbits previously submitted to repeated injections of human blood. I have given up these experiments which instead of favorable results caused once an extremely violent reaction.

Abadie considers the recurrent hæmorrhages of adolescents as a dyscrasic affection due to an alteration of the blood. In many cases nosebleeding had preceded the hæmorrhage into the vitreous body and had since ceased. The hæmorrhages are sudden with their starting point often at the level of the ciliary body. The younger the individual the more rapid the absorption. Since in Abadie's opinion the nervous vaso-dilator apparatus plays a great part in these cases, having great confidence in the powerful vaso-constricting action of quinine, he prescribes extract of quinine



in large doses, one or two grammes per day. We give in these cases the following pills: Extract of quinine 0.25, sulfate of quinine 0.02, tannin q.s. m.f. pill. 4 to 8 such pills to be taken once a day.

Aside from quinine Abadie prescribes several glasses of citric or sulfuric lemonade per day and perchlorate of iron, 20 to 30 drops, and from time to time an injection of ergotinin.

Masselon has observed a hæmorrhage from the optic papilla flowing through the central canal of the vitreous body and covering the posterior surface of the lens. Vision returns rather bruskiy in these cases.

When the hæmorrhage has taken place into the vitreous body can we by any surgical intervention effect its quick absorption? Can we aspirate the blood and replace it by a salt solution? This would be very risky!

Intraocular hæmorrhages occur, also, after cataract operation, contusions or wounds penetrating into the eyeball. Those which come on during an iridectomy for glaucoma, explosive hæmorrhages, producing prolapse of the iris and vitreous body, are most to be feared because they often end in death.

As soon as the vitreous body is seen to enter the wound, if there is time, the wound should be sutured immediately; but we seldom see the case early enough. We must then content ourselves with a compressive bandage. At the same time the digital compression of the carotid artery should be made as complete as possible. The patient's head should be held up during this time as quietly as possible, both physically and mentally. One method to reach this end is to give a full hypodermic injection of morphin. If nausea results, so much the better, we may even try to produce this by injecting equal parts of morphin and apomorphin.

Emetin, which has rendered such great service in hæmoptysis, epistaxis, etc., may, also, be used to advantage. It is best to make an intravenous injection (or a subcutaneous one) of 3 to 6 centigrammes of emetin chlorhydrate.

If the hæmorrhage persists we must inject gelatinized artificial serum according to Carnot's advice: sterilized gelatin 20 to 100 grammes; calcium chloride 10 grammes; water 1,000 grammes. Inject 200 to 500 cc. either into a vein, or under the skin or even per anum. Some authors recommend the addition of several drops of adrenalin to this solution.

However equally good results are obtained by hypodermic in-

jections of warmed horse serum or even, for want of a better, of any antitoxic serum in the dose of 20 to 30 cc. But the most certain and simplest remedy, always at hand, is the hypodermic injection of 200 to 300 cc. of the patient's own blood, as we have stated above. Then we have the rapid and powerful action of the bleeding on the blood pressure and the antihæmorrhagic action of the serum absorbed. The local action of hæmostatics, perchlorate of iron, dried serum, antipyrine, etc., is inapplicable in these cases.

Local compression is very difficult to exert in an efficacious manner, and the blood mostly continues to flow under the bandage. In these cases enucleation has been advised after prolonged and forceful compression and even ligature of the optic nerve. This a pretty radical measure, but when we know that the patient's death may result from these grave expulsoy hæmorrhages we must use every means at hand.

When there is simply a hæmorrhage into the anterior chamber during an operation, mostly of iridic origin, it will be sufficient to apply a compressive bandage and if necessary to prescribe a drink with calcium chloride or any other of the remedies mentioned above. Such hæmorrhages occur in 4 per cent. of the cataract operations, especially in albuminurics, still oftener in diabetics. Occasionally an iris wound is the cause. Conjunctival hæmorrhages call for the same treatment. With bleeders the greatest precautions must be taken before the operation, injections of gelatinized serum with calcium chloride, warmed horse serum, etc. Local applications of dried serum, oxygenized water, perborate of sodium in concentrated solution followed by good compression are indicated only in conjunctival hæmorrhages. Leeches and cupping may be used at times.

The attempts to empty hyphæmata by puncture of the anterior chamber have sometimes produced good results, however, in others the blood had reappeared after a short time.

Traumatic hyphæmata sometimes fill the whole anterior chamber, hiding tears in the iris and deeper injuries, dislocation of the lens, detachment of the retina, etc. In such cases we must act with great circumspection. It is best to try bleeding at the temple before puncturing the cornea and it will be necessary to allow the blood to flow out very slowly only in order to avoid a new hæmorrhage. We must be even more careful in making injections or washing out the interior.

Under the name of retinal apoplexy or hæmorrhagic retinitis

formerly a number of retinal affections of the most varied causes were reunited. To-day the retinal apoplexy would correspond to thrombosis. The principal forms of hæmorrhagic retinitis are now known to be due almost always to vascular alterations in consequence of arteriosclerosis (50 to 60 per cent.), heart diseases (10 per cent.), albuminuria (7 per cent.), diabetes (2 per cent.), leukæmia, pernicious anæmia, hæmophilia, intoxications, etc. But we must insist on the fact that the vast majority of retinal hæmorrhages is due to a particular fragility of the bloodvessels due to an alteration of their walls, angiosclerosis often of syphilitic or tubercular or other origin, causing repeated vascular rupture under the slightest sudden elevation of the blood pressure. Proliferating retinitis may result from these.

Hæmorrhagic glaucoma is often foreshadowed by hæmorrhages in the fundus of the eye. Diseases of the heart, especially those which are accompanied by arteriosclerosis predispose to hæmorrhages. The finding of a hæmorrhage in the fundus of an eye must never be considered as a fact of little importance. Very often it is a precious indication which puts the physician on the track of a general grave organic affection, unless the cause is found in an injury, compression of thorax, etc. If the general practitioners would use the ophthalmoscope more often they could be acquainted with the condition of the cerebral vessels of which the retinal ones are the true picture.

Hæmorrhagic retinitis, a comparatively rare affection (14 per 1,000) shows itself to the ophthalmoscope in various aspects. It appears especially between 50 and 70 years of age, and oftener in women than in men. As a rule unilateral, it interferes seriously with the function of the eye attacked.

It is not rare that a hæmorrhage is provoked by some exertion, coughing, violent sneezing, vomiting, pressure on defæcation, violent muscular efforts. The prognosis of hæmorrhagic retinitis is good in 40 per cent. of the cases. As favorable conditions we may mention the female sex, especially between 50 and 60 years (menopause), preretinal hæmorrhages, hæmorrhagic retinitis *sensu stricto*, few peripapillary hæmorrhages, a good hygiene, especially of the alimentary function, finally appropriate treatment.

The prognosis is bad in 60 per cent. of the cases. Among the unfavorable conditions we may mention: The masculine sex, advanced age, early arteriosclerosis; fatigue, overwork, general weakness, in one word a bad general health and a defective hygiene.

The advent of a hæmorrhagic retinitis in an arteriosclerotic individual must make us fear a cerebral apoplexy.

Thrombosis of the central vein is less rare than stated (1 in 20,000). We believe its prognosis is not invariably bad.

The treatment of a hæmorrhagic retinitis though little efficacious in general, has undoubtedly in cases with a favorable prognosis a decided influence on the cure.

What we can count on most for the improvement or the cure of not only a hæmorrhagic retinitis, but of the general disease which is its cause, is a strict hygiene: milk and vegetable diet oftenest with abstention from all alcoholic liquors, physical and moral rest, not excluding moderate exercise, abstention from every effort, from lowering the head and from all tiring and prolonged eye work, the wearing of tinted glasses, watchfulness regarding the intestinal functions and of the circulation in the extremities. Unfortunately for very varying reasons that is just what the physician has the greatest difficulty in obtaining.

The mechanical action of massage could help in the absorption of the blood; this might be helped by subconjunctival injections of gelatinized serum, of fibrolysin or potassium iodide, or by instillations of dionin and applications of radium.

The treatment of retinal hæmorrhages during pregnancy will consist chiefly in bleedings. The best means to hasten absorption is the repeated application of leeches and cups to the temple or to the mastoid apophysis. This local bleeding produces a very favorable effect, and, since we have found no other more scientific means more certain in their action, it is the duty of the physician to use this old remedy, which even if it has no action on the pathological process itself is certainly the one which in the shortest space of time brings on a functional improvement which is very marked and sometimes evidently even the absorption of hæmorrhagic exudations. But it is quite certain that the true therapeutic indications will be furnished to us by a deeper knowledge of the pathogenesis of the hæmorrhages itself.

We know that their causes are multiple.

(1) A fragility of the bloodvessel walls, sometimes congenital, but more often due to atheroma, to an early arterial sclerosis of toxæmic origin.

In these cases all therapy must try to give the arteries more elasticity, by prescribing iodide of sodium, injections of physiologic or, better, autoserum, in prohibiting the abuse of alcohol and in general all excesses, all sudden emotions and violent efforts.



We must, further, watch that the intestinal functions work regularly, the heart's action as well as the functioning of the lungs and kidneys.

In case there is increased arterial pressure and a plethoric state, an abundant bleeding will sometimes bring about a more radical and immediate effect than leeches. but in less robust individuals the tension may be reduced by warm air baths, light baths, currents of high frequency, etc.

The engorgement of the bloodvessels due to general or local troubles in the circulation predisposes to hæmorrhages (thrombosis of the central artery, embolism, etc.).

(2) The retinal hæmorrhages may have as cause a more or less profound alteration of the blood, as the hæmorrhages observed in pernicious anæmia, malaria, leukæmia, purpura, scorbut, icterus, albuminuria, oxaluria, azoturia, phosphoturia. The treatment must concern the general disease.

---

DEPARTMENT OF COMMERCE—BUREAU OF THE  
CENSUS, WASHINGTON.

The National Council of the American Society for the Control of Cancer at its meeting at the Harvard Club, New York City, on June 4, 1917, unanimously adopted the following resolution:

*"Resolved,* That the American Society for the Control of Cancer strongly commends the action of the U. S. Bureau of the Census in publishing its notable report on the mortality from cancer in the U. S. Registration Area in 1914, and records its appreciation of the courteous co-operation of the Director of the Census and all the members of his staff who contributed to the compilation of this unique volume, which represents an unparalleled contribution to the statistical study of malignant disease, and has already furnished the basis for many promising special investigations."

With which we fully agree.

ALT.

## THERAPEUTIC REVIEW.\*

(The following Therapeutic Review gleaned from German ophthalmic literature we think it worth while to furnish our readers, since for many months no German journals have reached us.—Editor.)

MUELLER AND THANNER.—*The cure of iritis and other eye affections by means of parenteral injection of albumen (sterilized milk).*

R. Müller has lately studied the action of different albumenoids on local inflammatory processes. He has had good result in gonorrhœal complications, in buboes, inflammatory processes due to staphylococcus infection and others. Based on clinical experiences he thinks he has explained the effect reached by an increased hyperæmia and transudation in the inflammatory focus; other processes, especially hyperthermia and leucocytosis, play a rôle, too. He thinks that specific vaccination acts above all, also, by non-specific products of decomposition of the albumenoids which cause a hyperæmia. These products originate in a specific manner by the action of the antigen antibodies. In one word he believes that the favorable action on the inflammation and pain is an anaphylactic action.

This opinion has prompted the authors to try this method, also, in patients suffering from eye affections. For different reasons they have chosen milk as albumenoid preparation, as recommended by Sachal.

They have previously never seen a cure as plainly favorable and rapid of the pain and the photophobia as of iritis with the milk treatment, excepting only the operative treatment of an acute glaucoma. (Such results have been obtained by us for a long time by paraspecific serumtherapy parenterally as well as by mouth.—A. D.)

In parenchymatous keratitis due to hereditary lues, which thus far has resisted all medications aimed at influencing its course (salvarsan included), the results obtained with milk caused them to be greatly astonished.

In 4 cases of keratitis antisyphilitic treatment of the most energetic kind remained inefficacious; the injection of an albumenoid with non-specific action caused an immediate suppression of the hyperæsthesia and photophobia; it, also, reduced considerably the duration of the affection which became markedly more benign.

\*La Clinique Ophthalmologique, March, 1917.

The eleven cases of iritis treated with injections of milk showed that the effect of this treatment was as beneficial as possible. The hyperæsthesia and photophobia which last usually for weeks are gone, as a rule, at the end of 24 hours, and the duration of the affection is reduced to an incredible degree.

In a case due to gonococcus infection in which 5 injections of arthigon had, it is true, caused some improvement without, however, preventing the appearance a few days later of a grave iritis, 3 injections of milk were enough to achieve a cure as rapid as with arthigon and without relapse.

In most cases rheumatism was the cause of the affection. Sometimes the ætiology could not be made clear. In two cases, in one of which the blenorrhagia played a rôle, while in the other a gonococcic iritis had developed 20 years previously, the pain and photophobia were less improved after the first injection of milk than in the other cases, there was even an exacerbation in the days following—which had never been observed before. After the second injection only the cure was assured. All the cases of iritis and opacity of the vitreous body were of an obscure ætiology; they could never find syphilis or tuberculosis and in all of them the internal examination showed everything normal. The action of the milk injection was such that the authors have not been able to find any remedy which might have been able to produce even one-half the good effects. The absorption of opacities takes place in an exceptionally rapid manner. In one case this treatment exerted a similarly marked effect on a concomitant choroiditis. No cases of opacities of the vitreous body combined with very marked myopia were treated.

To date no complete cure of opacities in the vitreous body has been obtained. In the cases of choroiditis treated by the authors the milk injections had only an incomplete effect or none at all.

A case of total atrophy of the optic nerve with normal size of the visual field, but large central scotomata, in a syphilitic has been treated for a long time and, as it seems to me, with some success.

In a case of conjunctival blennorrhœa in a soldier treated relatively late by milk injections the authors found a very favorable and rapid influence on the palpebral and conjunctival œdema.

The injections were always made into the gluteal muscles, being careful that the needle did not reach the neighborhood of the sciatic nerve. After the puncture the needle is always withdrawn somewhat to make sure that it did not enter a bloodvessel. Every time 5 cc. of perfectly fresh milk, boiled for four minutes,

were injected, they generally made 3 injections per week followed by a pause. In most cases, however, the three injections were sufficient. (*Wochenschr. f. Ther. and Hyg.*, 1916.)

KOEPPE.—*Clinical observations made with the Nernst lamp and the corneal microscope. Second communication. Tuberculous iritis and remarks on the therapeutic effects obtained with the lamp. (Graefe's Arch., Vol. 92.)*

Pathological deposits are found on the posterior surface of the cornea in every case of iritis, whether tubercular, serous or in any other form. These deposits look like droplets, fibres, stars or conglomerates. In the form with droplets the posterior surface of the cornea this looks bedewed. It is probable that these droplets are insufficiently coagulated fibrin. They appear also in inflammations of other ætiologies. The author has observed them, also, after the complete cure of an iritis. The fibres (filaments of fibrin) may be likened to picked cotton fibres.

This is evidently a late stage of the droplets. The star form is very common. The substance is deposited in a manner reminding one of snow flakes; there is the impression that there is an additional moisture capable of crystalization. The amorphous conglomerates have a different aspect. These are like elevations on the endothelium, often in the form of transparent nodules; after a certain time they are covered with very fine pigment particles like pulverized pepper.

Their volume seems to grow by apposition, like the stars, and they reach varying sizes.

These forms show themselves in the course of different varieties and stages of tuberculosis of the iris, and in most cases even side by side. Thanks to the Nernst lamp the diagnosis of iritis can be made by the examination of the posterior surface of the cornea alone at a period when this would have been impossible with the corneal microscope alone. The conglomerates and the nodules are, moreover, suspicious of tuberculosis.

Deposits are also observed, though less frequently, on the anterior lens capsule. These formations are much thinner than those on Descemet's membrane, often barely visible, or even absent. From a differential diagnostic standpoint they can be used even less than the others.

In serous iritis they are always found in the aqueous humor. They are not of any importance from the point of differential diagnosis when searching for the ætiology. They are composed of fibrin, cellular elements, pigment particles and sometimes



erythrocytes. The visibility of light rays in the anterior chamber is a precious symptom of the existence of an intraocular pathologic modification.

With the light of the Nernst lamp the iris does not appear like a membrane. This organ has rather the aspect of a spongy material swimming in fluid and entirely imbibed with fluid. It encloses small rods, tubercles and fibres intermixed; there is little supporting tissue in comparison with the quantity of contractile elements. The intermixture takes place from in front backwards and it is the great quantity of fibres placed side by side and in front of the others which produces the macroscopic appearance of a membrane. The author describes the normal iris, miosis and mydriasis.

In tuberculosis of the iris he finds at the beginning of the affection a hyperæmia, especially in the region of the sphincter muscle and in the "colarette". Then in these same parts and exceptionally in the periphery, bizarre thickenings of the tissues are seen to form, mostly surrounded by a zone of hyperæmic bloodvessels. Finally the study of the case will show that there is a specific intrairidic tubercular process. A glassy swelling of the region of the "colarette" and of the sphincter in the immediate neighborhood of the pupillary border is a characteristic sign of tuberculosis. There may be an ulcer formed like a cupola, glassy, or swellings formed like sausages by confluence. In this form of tuberculosis there are always posterior synechiæ and exudations on the iris and the lens capsule.

The author then describes other cases of tuberculosis of the iris with nodules, an anterior and posterior pupillary form, a form in the sphincter region, in the "colarette", in the ciliary part.

Systematic treatment of the portions of the iris attacked by tuberculosis with the Nernst lamp constitutes an extremely active factor in the therapeutic arsenal; it deserves to be adopted by everybody aside from the specific tuberculin treatment. In a case accompanied by oedematous changes in the cornea, after the systematic irradiation of several patients, a lasting clearing up of the corneal opacities was found. The author has found that the best cases for the treatment with the Nernst lamp are all the nodular forms, and the localized changes in the iris, as, also, the cases of pure serous iritis without decided changes in the iris tissue. The technique is described and the literature on this subject is given. (*Wochenschr. f. Th. and Hyg.*, 1916.)

VON HIPPEL.—*Dangers to the visual organ from the treatment of pneumonia with optochin.* (*Deutsche med. Wochenschr.*, 1916.)

The author describes a case in which a business man 62 years of age, suffering from unilateral pneumonia, was treated by his son, an assistant physician in the army, without the knowledge of his regular physician, with optochin hydrochlor. in the dose of 0.25 grammes six times per day. The author was called to see the patient, who had taken 2.50 grammes of the remedy in two days. This therapy had produced a lasting disturbance of vision.

We know to-day of about two dozen cases in which optochin has caused a temporary total blindness; in eight cases lasting visual disturbances resulted. The author can in no way affirm that the other cases were altogether cured.

He protests against the literature concerning the medicamentous effects of this remedy in internal medicine. The visual phenomena here are treated as accessories of little importance.

Blindness produced by a medical treatment is no accessory phenomenon. It is, on the contrary, a true catastrophe for the patient and his family, capable of bringing about a grave prejudice to the reputation of the physician among the people.

The author thinks, therefore, we should not recommend optochin in medical practice in general. It is first necessary to study this remedy in the hospitals and clinics under the responsibility of their directors, and that thus the patients may be guarded against blindness.

He admits that in the treatment of serpiginous corneal ulcer it is a remedy of very great value, as proven by his own observations. It would, however, be erroneous to believe that with this remedy alone a serpiginous ulcer can be cured; it is not even rare that optochin remains without any effect. (*Wochenschr. f. Th. and Hyg.*, 1916.)

FEILCHENFELD.—*Amaurosis from optochin.* (*Deutsche med. Wochenschr.*, 1916.)

In an individual of 20 years a pneumonia was diagnosed on December 11. He was given 0.20 grammes optochin every hour (5 grammes in all). On December 12, tinnitus, which grew still worse the next morning. On December 13 the patient saw very badly; on the 14th almost total blindness. Pupils dilated ad maximum, they react very feebly only under intense illumination. The bloodvessels of the papilla are contracted, the macula is clearly

visible in the shape of a cherry-red spot; the remainder of the fundus is normal. Movements of the hand before the eyes are perceived. The treatment consisted in high doses of iodide of sodium and tincture of strophanthus. On December 15 hearing has returned. On February 24, V. R.E. with  $-4.D=6/6$ ; L.E. with  $-1.D=6/6$ . Accommodation and pupillary reaction good. The papilla in both eyes very pale, bloodvessels contracted, hemeralopia, muscae volitantes, annoying subjective scotomata. Visual field reduced concentrically in both eyes with extensive scotomata; in the R.E. in the form of a half circle; no central scotomata, the color fields very much reduced, hearing good.

The dosis of optochin in this case corresponds with the many prescriptions of the authors, it is even below the limit given by several. It is certain that optochin, like quinine, exerts from time to time only such grave noxious influences on the optic nerve; in spite of this we must be prudent and first try out the patient's tolerance. Since it seems that the difficulties in hearing appear first, the medication must be stopped as soon as they show themselves. (*Wochenschr. f. Th. and Hyg.*)

ADLER. (*Therap. Monatschr.*, September 16.)—*Three cases of amaurosis from optochin.*

The author relates three cases of optochin amaurosis which with several others show that the dosis of optochin hydrochloride is not at all firmly established.

(1.) After eleven doses of 0.25 grammes of optochin hydrochloride administered in 48 hours an amaurosis appeared which lasted approximately for 12 hours. Then central vision returned but visual troubles persisted and during several months very marked modifications in the retina. There was at the beginning especially a venous stasis.

(2.) Here, too, 0.25 grammes of hydrochloride of optochin was given 6 times, every 4 hours one dose. In spite of this careful administration, after the thirteenth dose of 0.25 grammes, there appeared serious eye affections which lasted several months, and have not yet disappeared. The interesting fact was observed that after the ceasing of the medication the eye affections still grew worse; complete amaurosis showed only the following morning.

(3.) A total dose of 1.80 grammes of optochin in 72 hours provoked grave eye affections; there was an amaurosis which lasted more than a week after the cessation of the medication; restituti-

tion took place very slowly. Even several months later the changes in the eyeball suggest atrophy of the optic nerve.

These observations together with those found in literature show that it is necessary to take the greatest precautions in administering optochin, at least the hydrochloride. A dosis of 0.25 grammes is evidently too great. The experiences made thus far have prompted the author no longer to give this remedy to patients. Its employment should not be recommended. The dosage of this remedy should be carefully studied; thus we may learn whether smaller doses of optochin hydrochloride give the same good results as larger ones without danger to the visual apparatus, or whether we can obtain the curative effects with less soluble preparations such as basic optochin or its salicylic ether. (*Wochensch. d. Th. and Hyg.*, No. 107).

LORANT.—*Optochin amaurosis* (*Deutsche med. Wochenschr.*, 16, No. 44).

A lady of 40 years, perfectly healthy and robust, suffering from pneumonia, received 4 grammes of hydrochloride of optochin in 20 doses of 0.20 grammes every 2 hours. From the first dosis on violent tinnitus, the next day marked deafness, the third day complete deafness. The day before taking the last dose, suddenly total amaurosis. Pupils medium dilated, immovable, without reaction to light.

No affection of the ocular media, papillæ pale, sharply defined, retinal vessels very contracted, slight arterial pulsation on pressing the globe; in the left eye small circumscribed hæmorrhages. On the tenth day hearing has returned to the norm, while the bilateral amaurosis persists half a month later. With the ophthalmoscope the arteries appear even still more contracted and the papillæ still paler.

The author accepts von Hippel's conclusions, especially a careful study of the dosage of optochin. Until this should be obtained optochin should be given only in clinics, and this medication should not be recommended to the patients until an inoffensive preparation of it has been obtained which has the same good therapeutic properties.

HAAS.—*Further contribution to the study of the treatment of gonococcic conjunctivitis with noviform.* (*Wochenschr. f. Th. Hyg.*, March, 1916.)

In the December, 1913, number of this review I have published my first report concerning the treatment of the blennor-



rhœa of the newly born with noviform. I did then not think that I should have occasion to try this medication in gonococcic infection of the eye in the adult.

The case was one of a man, 27 years old, suffering from acute gonorrhœa of the urethra who had been brought 3 days before I saw him on account of an inflammation of the right eye, which had started the day before. The right eye was invaded by a gonococcic inflammation already very violent. I dispense with giving here the details and content myself by stating that the cornea was not yet affected, but that especially the œdema of the lids, the chemosis of the bulbar conjunctiva and the purulent secretion had already reached considerable proportions and caused the patient to suffer greatly. In the microscopical smear numerous gonococci were found.

Based on the good results of the treatment with noviform in three children and the confirmation by Wolffberg, I decided at once to try in this case, also, the noviform treatment. I could not procure the remedy until several more days were passed. Up to that time I instituted the following treatment. At his entrance a drop of a 1 per cent. solution of nitrate of silver was instilled and the following day he was treated in the same manner. From the third day of the disease on, in the ophthalmic department, he was kept in bed and frequently irrigated with oxycyanide of mercury solution 1 to 3000, then three instillations of choleval, a new silver preparation of Merck's, were made daily.

It is true this medication offered a certain resistance to the progress of the morbid process. But when finally on the 7th day I could use noviform, applied 3 times daily in a 10 per cent. ointment, I could see, as in the newly born suffering from blennorrhœa, an almost instant modification and so energetic that at the end of a week every trace of a gonococcic inflammation had disappeared. A slight conjunctivitis, which still persisted, was cured in a little while with a weak zinc sulfate solution.

Here the demonstration is not absolutely demonstrative, since a silver treatment had been applied for several days; yet it seems to me that the success in this patient speaks entirely in favor of noviform. It is precisely the ocular blennorrhœa in the adult which is so very dangerous and tenacious, and when the beginning of an improvement coincides in a manner so rapid and characteristic with the employment of noviform we may well consider as justified the expression "*post hoc ergo propter hoc*", which is so often applied without reason.

As far as I can judge from an examination of the literature, one paper only has appeared after my publication concerning noviform and blennorrhœic conjunctivitis; it is the one of Wolffberg, which I have already mentioned, who confirms my conclusions. This author, in fact, states, also, that in three grave cases of blennorrhœa of the newly born the results were remarkably good.

It is possible that now the noviform will attract more attention for the treatment of blennorrhœal conjunctivitis. The above case demonstrates that in reality outside of pædiatrics this remedy is capable of rendering excellent service. (*Wochenschr. f. Th. and Hyg.*, 1916.)

F. VON ARLT.—*Lecithin in scintillating scotoma.* (*Wochenschr. f. Ther. and Hyg.*, May, 1916.)

I have observed on myself and others that after prolonged ingestion of lecithin a scotoma scintillans, that disagreeable affection, did not show itself any more.

During these last few years I suffered frequently from attacks of scintillating scotoma, coming on almost every week. Having commenced to take lecithin in February, 1914, to combat asthenic conditions in the dose of 4 grammes per day in tea during the afternoon, I noticed after about three weeks that I had had no attack. I continued to take the lecithin regularly and I could convince myself more and more that this medication was the cause of the disappearance of my attacks. Two years have passed since then and I had not a single attack of scintillating scotoma. I took the lecithin from February to July, 1914. The result was excellent and my weight was increased by four pounds.

As some patients came to consult me who were afflicted with the same disease, I prescribed lecithin in the same form for them and have had the same success with most of them. I have treated seven cases in all, mostly young individuals, and have been able to note several months later their cure was maintained.

The granular lecithin was prescribed in the dose of 4 grammes a day in tea or coffee, and the tablets were given in the dose of 2 per day.

BOEHM.—*Eye injuries by lead explosion.* (*Mtsbl. f. Augenhk.*, August, 1916.)

In such injuries we find ourselves in the presence of cases

which have hitherto been unknown for they are observed in larger number only during war. Handmann (*Zeitschr. f. Augenhk.*, 1915) describes the genesis of these traumatisms in the following words: "When the rifle ball strikes steel buckles, or some stone in the wall of the trenches, or when it passes through a sack of sand the aluminum covering of the ball breaks, the lead nucleus is melted and pulverized into particles of greatly varying sizes, from a seed grain to a real cloud of lead in a state of extreme division." The author has seen such cases very often. Twenty-seven of these were treated in a manner adopted at the clinic. In almost all cases of injury of the eyes by pulverized lead it is found that the skin of the face is, also, affected. In order to detect the foreign bodies Roentgen rays rendered great service, especially with the help of the diapositive of Wessely. In five enucleated eyes it was possible to demonstrate chemically that the fragments were lead. Since the microtome cuts the lead the latter is found in the sections. The author recalls shortly the original work of Leber concerning the action of chemical irritation of foreign bodies in the eye. Then he gives the description of the lesions in the five enucleated eyeballs from a macroscopic as well as a microscopic standpoint. In one case the wound of entry was infected. From this resulted an endophthalmitis with abscess in the vitreous body, cyclitis and phakitis. The internal ocular membranes were affected in a diffuse manner; only around the foreign body circumscribed abscess formations with encapsulation are found. The staining of sections did not reveal any microbes. No cultures were made. The eye was destroyed by the infection and enucleation could not be avoided. In the depth of the corneal stroma small particles of lead caused no tissue reaction, except a small degree of proliferation of the fixed corneal cells; no inflammatory infiltration around the foreign bodies.

In the second case a retrograding cyclitis was found as the consequence of the injury. The author draws attention to the disproportion between the clinical phenomena and the anatomopathologic findings. The light perception and projection was abnormal, which indicated that the function of the light perceiving elements of the retina had already suffered. The pathological examination showed that the changes which the retinal elements had undergone were relatively very weak. The piece of lead lodged in the vitreous body produced no marked reaction, no leukocytes. Only the retina in the immediate neighborhood

showed a fibrous inflammation. There was no detachment nor tear in the retina.

In the third case ~~there was an œdema~~ of the papilla following an inflammation. In the widely dilated veins were many leukocytes among the blood cells. The œdema of the papilla is due to a hyperæmia and reached a high degree. It is impossible to recognize whether the cause lies in the irritation due to the presence of the fragment of lead in the vitreous body or whether there are any microbes present; the search for the latter had a negative result. There is no pus around the fragment of lead, but it is encapsulated in a fine connective tissue. Enucleation on account of subretinal hæmorrhage.

In the fourth case it was found first that a large number of fragments of lead had reached the fundus of the eye and remained lodged in the tissues; it seems that the patient had been struck by the débris of a shrapnel ball. The cornea showed as reaction only a slight proliferation of the fixed corneal cells. The direct consequences of the injury were an iridodialysis, a traumatic cataract, internal hæmophthalmus and prolapse of the iris. To this came later an iridocyclitis. In spite of the presence of the small fragments there was no abscess formation in the vitreous body, there was only a slight purulent retinitis with a little marked choroiditis, especially at the sites of the fragments.

In the fifth case, also, the fragments are numerous in the fundus of the eye. Aside from one big fragment of lead the metal is in a state of extreme pulverization. A purulent retinitis with a diffuse choroiditis appear, especially around the fragments of lead where all of the retinal layers were found to be invaded by leukocytes. The damage to the lens and a hæmorrhage into the vitreous body prevented the ophthalmoscopic observation of the morbid process.

The author then relates different cases of great clinical interest, showing that the injuries produced by the passage of lead to the very fundus of the eye remained aseptic. In part the fragments could be seen in the fundus, some had the force to penetrate the cornea and to reach the fundus of the eye, some remained hanging in the lens and were removed with it, which permitted the saving of some vision. In one case when the lens capsule was incised a fragment of lead was seen to emerge from the cataractous lens, which could be extracted after a corneal incision had been made. In another patient in the right eye in the posterior cortical substance a fragment of lead was found to be fixed by



cicatrization without any reaction. The lens had remained translucent three months after the injury.

The other eye had to be enucleated.

The author mentions especially a case of explosion of a hand grenade having injured the face. Both corneæ were covered with little particles of lead. There was no possibility of extracting them. These fragments presented various colors according to their situation. On the anterior surface of the iris in the right eye was lying an enormous quantity of small foreign bodies of a grayish white color following the movements of iris when the pupil contracted and having produced no reaction. The papilla was normal; there was a scar in the choroid. V=fingers at 3 m. In the vitreous body in the left eye there were fine refracting dust particles similar to a synchysis scintillans. With the ophthalmoscope a small piece of lead could be seen in the retina at the nasal border of the disc. The eye was not irritated, the visual acuity intact.

The same lesions were found in another case of hand grenade injury, also, in a case in which a rifle ball hit the visor of the injured. Lead in a melted condition was projected into the face and the two eyes. A small piece of lead was fixed in the vitreous body. The eyes were not irritated.

A last case, already reported by Uhthoff, presented itself in the same favorable condition.

These clinical observations show us that fragments of lead, if aseptically introduced into the eye, behave in an indifferent manner toward the tissues of the eye. The solubility of lead in the vitreous body is doubtless minimal, for the curative process was benign in all the cases. The prognosis is good even concerning sympathetic ophthalmia. Enucleation, therefore, is not necessary. It enters into consideration, without saying, according to the gravity of each case. In the five cases of enucleation the eye was perforated by large fragments of lead.

HEGNER. — *Exudative retinitis in lymphogranulomatosis.* (*Wochenschr. f. Th. and Hyg.*, November, 1916.)

The author commences by recalling that Cohnheim, in making precise the definition of pseudoleukæmia, has given occasion to Sternberg to separate sharply the characteristic symptomatology of lymphogranulomatosis from that of pseudoleukæmia. The author brings out the following facts, especially in this clinical picture: Swelling of the lymph glands, particularly the cervical ones, without suppuration, splenomegaly, often also hypertrophy

of the liver, hot flashes; the blood examination reveals no characteristic conditions; the course of the disease is chronic. Pathological anatomy. Increase in volume of almost all superficial and profound lymph glands, nodules in the tissue of the spleen, the liver and less frequently in the kidneys and the spinal chord. Histologically especially chronic inflammatory changes in the lymph tissue are found (Sternberg's cells). The lymphogranulomatosis in several particulars resembles Mikulicz's disease. In certain rare cases a lymphogranulomatous tumor may appear in the region of the eyelids and the orbit. The author has had occasion at the eye clinic at Jena to examine from the clinical as well as the pathological standpoint the changes in the fundus of the eye accompanying lymphogranulomatosis. A patient 70 years of age complained of disturbances of vision. V=fingers at  $2\frac{1}{2}$  mm. in R.E. In the macular region a large gray focus, recalling an old choroiditic focus; in the L.E. a similar focus. The patient was pale, yellowish, thin; the cervical glands were hypertrophied. He felt weak and died after a little while. The following parts of the autopsy refer to the eyes. In the retina R.E. two foci of intense coloration under which are found epitheloid cells of varying size with nuclei rich in chromatin; in the region of the macula, between retina and choroid a fibrous spindle-shaped mass. In the L.E. a similar inflammatory focus in the choroid in the neighborhood of a large vessel. In the neighborhood of the macula a black spindle-shaped swelling with sharply cut margins of a considerable diameter. Choroid as in the R.E. The microscopical examination shows that there is no hyperplasia or neoplastic proliferation but a chronic inflammatory process. The marked polymorphia of the epitheloid and giant cells, the presence of progressive as well as retrogressive alterations side by side, the fibrous transformation of the inflammatory tissue, as well as the localized spots of necrosis, together constitute the characteristic histology of the affection known by the name of lymphogranulomatosis. This must, therefore, be the diagnosis. It is easily seen that the changes in the ocular media are in intimate relation with the general disease. The histological changes recall the exudative retinitis. It is supposed that for the genesis of the latter the primary cause is a disease of the bloodvessels. The appearance of a large number of cells with fat granulations is characteristic of exudative retinitis. We must remember, further, Leber's statement who considers tuberculosis often to be the cause of exudative retinitis. It is, in general, admitted that

it is a modified tubercular virus which in lymphogranulomatosis produces these characteristic alterations in the hæmatopoëtic apparatus.

SCHERTLIN.—*Contribution to the study of Dr. Edmund Jensen's choroiditis.* (Klin. Mtsbl. f. Augenhk., 1916.)

The author describes three cases of Jensen's choroiditis. Cases 1 and 2 had at first been considered as being tuberculous, although they presented all the symptoms of Jensen's affection, inflammatory focus, prominent, whitish or whitish yellow in the fundus, the vessels of the retina being veiled and opacities in the vitreous body, loss of form vision in sectors, their point corresponding with the site of the focus.

The first observation is interesting because this affection which returned 3 times in 5 years attacked both eyes, began twice with an increase in intraocular pressure, no iritis. There were, moreover, two old choroidal scars lying together, three small choroidoretinitic foci, at first gray, then yellow, with indistinct contours which soon reunited to form one larger focus, so that later on there was only one large focus of the size of the papilla. There was no reason to think of tuberculosis. Otherwise this case does not differ from those previously published.

The second observation fits exactly the known reports of Jensen's disease. True, the inflammatory focus did not lie quite close to the papilla but about two papilla diameters from it. Again no sign of tuberculosis.

The third observation is distinguished especially from the two preceding ones by the fact that at first no inflammatory focus was found near the papilla. He was forced to admit an uveitis suspicious of tuberculosis. The focus was recognized only a month later. It did not become manifest until after the injection of 1 milligramm of old tuberculin.

Cases 1 and 2 did not present anything abnormal in their anamnesis. The third patient had previously acquired syphilis, but Wassermann was negative as in cases 1 and 2. Syphilis, therefore, does not play any rôle. In the first case the formation of a focus beginning as several isolated foci, first small, then larger, then yellowish and confluent with a tubercular aspect, makes us think of granulosis. The same is to be said of case 3.

The author agrees with Gross-Peterson concerning the site and the genesis of the retinochoroiditis, who does not consider it a multiple affection, but a solitary one. But while Gross-Peterson mention as pathogenous agents certain unknown mi-

crobes, the author incriminates the tubercle bacillus and advises in future when observing such cases to think particularly of tuberculosis. (*Wochenschr. f. Th. and Hyg.*, 1916.)

BOEHM.—*Hydrophthalmus. Contributions to the study of the pathological anatomy and operative treatment of congenital hydrophthalmus.* (*Klin. Mstbl. f. Augenhlk.*)

The author gives a report of the anatomic-pathological examination of 4 new cases of hydrophthalmic eyes. His findings agree almost altogether with those of previous authors. The author's cases were all in an advanced stage of the affection. It was, therefore, possible to determine what were the interesting secondary changes to which the affection may lead. In none of the four cases could a true Schlemm's canal be found; in them were found many signs of degeneration pointing rather to a hyaline degeneration than to a bullous keratitis. Bowman's membrane had suffered considerably, the localized losses of substance did not have the character of ruptures. In the four cases there were ruptures of Descemet's membrane, cataractous lenses, marked dilatation of the anterior ciliary bloodvessels; retina and choroid were more or less atrophied, the papillae excavated.

In all these cases an iridectomy was made. Its effect did not last long. Almost no importance at all can be placed on the filtration through the scar when the iridectomy wound heals without complication. The failure of the iridectomy must, above all, be attributed to the fact that Schlemm's canal is not present in these cases. It is astonishing to note that at the Breslau clinic in two cases of iridectomy with cystic cicatrization vision remained good. It might, therefore, be best to try to obtain a cystic cicatrization of the iridectomy wound if this wound does not create other dangers. To-day at Breslau the preference is given to an anterior sclerotomy, which is less dangerous. It is true one a single such intervention is ordinarily not sufficient. The aim is to produce a filtering cicatrix as with the iris after iridectomy. But it can happen that after the anterior sclerotomy the subconjunctival prolapse of the iris becomes so large that it must be cut. An extensive operation may, also, by the shrinkage of the scar result in subluxation of the lens. Elliot's trephining should not be resorted to (Axenfeld) until it is seen that the eye cannot be saved by any other means. This operation leads to ulterior consequences which cannot be foreseen. The tissue which closes the operative wound has no marked filtrating properties. (*Wochenschr. f. Ther. and Hyg.*, 1916.)



AMERICAN BOARD  
FOR OPHTHALMIC EXAMINATIONS.

June 21, 1917.

The American Board for Ophthalmic Examinations has granted certificate of proficiency in Ophthalmology to the following applicants:

Chas. F. Adams, Frank Allport, Jos. A. Andrews, J. Steele Barnes, Mace Hudson Bell, Arthur G. Bennett, Nelson M. Black, Wm. H. Blair, J. B. Blue, H. H. Briggs, S. H. Brown, A. E. Bulson, Wm. K. Butler, Chas. W. Buvinger, Chester T. Caldwell, Ferdinand Phinzy Calhoun, W. E. Carson, F. T. Clark, Chas. Franklin Clark, Martin Cohen, W. Henry Crisp, Chas. M. Culver, Chas. G. Darling, Geo. Strong Derby, Geo. E. deSchweinitz, John A. Donovan, E. T. Easton, Linn Emerson, Robert Fagin, Lee Masten Francis, W. R. Fringer, H. H. Glosser, Harry S. Gradle, Allen Greenwood, H. F. Hansell, David Harrower, Isaac Harts-horne, Frank L. Henderson, Erastus Eugen Holt, Sr., Edw. D. Hurley, John Henry James, J. W. Jerve, L. W. Jassaman, Walter Buckley Johnson, Wilson Johnston, E. W. Kennedy, John S. Kirkendall, Karl Koller, Chas. W. Kollock, Robert Scott Lamb, Arlene Laura Lane, Bernard Larkin, Jr., Louis Levy, A. C. Lewis, F. Park Lewis, David B. Lovell, Archibald L. Macleish, F. W. Marlow, Henry H. Martin, Yazujian D. Maruke, Chas. A. May, J. L. Minor, Sam F. Nabers, Walter Robert Parker, James McDowell Patton, John Porter, W. C. Posey, J. M. Ray, W. G. Ricker, L. C. Rood, Thomas Hall Shastid, W. Likely Simpson, J. B. Stanford, Elmer G. Starr, Geo. H. Thompson, Peter H. Thompson, Derrick Tilton Vail, Clarence A. Veasey, John E. Virden, Will Walter, Harry M. Weed, Meyer Weiner, David Washburn Wells, Wm. Holland Wilmer, Julius Wolff, Casey Wood, Dikran Maruke Yazujian, Wm. Zentmayer.

The next examination given by the American Board for Ophthalmic Examinations will be held beginning October 30, 1917, at Pittsburg, following the meeting of the American Academy of Ophthalmology and Oto-Laryngology.

Those who desire to take the examination and be certified by the Board, should make application to the undersigned. Make application before August 1st, 1917.

Application blanks or any further information may be secured by addressing the Secretary.

Very truly yours,

506 Donaldson Bldg.,  
Minneapolis, Minn.

F. C. TODD, M.D., Secretary.

## ABSTRACTS FROM MEDICAL LITERATURE.

By W. F. HARDY, M.D.,

ST. LOUIS, MO.

---

### EXTRACTION OF CATARACT FROM THE VITREUS.

Thomson, in a paper read before the New York State Medical Society, discussed this very difficult or rather dangerous procedure (*N. Y. State Jour. of Med.*, April, 1917). The luxations occurring congenitally are looked upon as less likely to cause trouble than those resulting from trauma. Of the latter the totally dislocated lens, the one lying completely in the vitreus, is less dangerous than the one partially luxated and lying upon the ciliary body. Here the danger of cyclitis, glaucoma and even sympathetic irritation is very great. Those lenses dislocated into the anterior chamber must of necessity be removed because of the certainty of secondary glaucoma. Where the lens lies upon the ciliary body that structure is irritated, plastic exudate is thrown out and the lens may thus be bound in its abnormal position. The tendency of a cyclitis set up by a dislocated lens is to continue and increase rather than subside. Subluxation presents problems of varying difficulty, Thomson says, depending on how much of the zonula still holds and how far out of position the lens may be and how much it tends to encroach on the ciliary body. From the visual standpoint, even a moderate subluxation constitutes a serious disability, accommodation is reduced, refraction is changed or the lens becomes cataractous. In traumatic cases it is probable that the lens acts by mechanical irritation, causing the exudation of plastic material. This gradually contracts and produces traction on the ciliary processes. Glaucoma, when produced, is apt to be severe and intractable. The author thinks that some of the totally luxated lenses come to rest on the retina and are there fixed by plastic exudate, the contraction of which ultimately leads to retinal detachment. Congenital cases often require no operative interference. When a traumatically luxated lens lies on the ciliary body its removal is imperative. The earlier this is done the better. General anesthesia will often be necessary. A Graefe section with a flap is made. Vitreus presents and the loss may be extensive. An iridectomy is seldom necessary, and when done may result in further loss of vitreus. In the course of healing the vitreus retracts

into the eyeball, dragging the iris with it, so that prolapse is not likely to occur. Where the lens lies near the ciliary body it is not necessary to fix it with a needle or bident. After the section, with the globe held down, a wire loop is introduced and passed back of the lens, and with it the lens is withdrawn with as little violence to the ciliary body as possible. Extruding vitreus is cut, not wiped, away. Some cyclitis of varying degree is the rule after operation. The vitreous body may become infiltrated and later liquify, leading to opacities or detachment of the retina. Where the lens is totally within the vitreous Thomson thinks there is no need for haste, but that it is better to wait until the eye is fully recovered from the original injury. The fixation of these lenses in removal with some form of needle formerly almost universally practiced, is a valuable expedient, though at present the occasion for its use is rare. It will sometimes happen that the operator must choose between leaving the lens at the bottom of the vitreous and the attempt at its removal by the wire loop. At times owing to the cloudiness of the media the lens cannot be seen, and efforts at extraction with the loop will fail. In a few such cases the author has seen the lens spontaneously deliver itself the following day. This is explained as due probably to entanglement of the lens in the suspensory ligament, and as the sclera and other tissues retracted after the operative section, the lens was gradually forced out before complete closure of the wound in the lines of least resistance. This, of course, is exceptional. It is a good rule not to attempt the extraction of a lens luxated into the vitreous unless a clear view can be obtained. Mention was made of Paine's article dealing with this subject which appeared in the *Annals of Ophthalmology*, July, 1915.

#### RARITY OF SYMPATHETIC OPHTHALMIA AFTER WAR WOUNDS.

An article on the above subject was published in the *Archives Médicales Belges*, March, 1917, by L. Weekers, and the following abstract appears in the *Jour. A. M. A.*, May 26, 1917:

Weekers remarks that one of the unexpected happenings in the war is the extreme rarity of sympathetic ophthalmia, notwithstanding the great frequency of war wounds of the eyes. In his personal experience he has encountered only one instance of it among 800 cases of war injury of one eye. He recalls that during the Franco-Prussian war of 1870 fully 55 per cent. of the

wounds of one eye were followed by sympathetic ophthalmia, and even during peace times it averages 11.6 per cent., according to Hobby's statistics, and 21 per cent. after unsuccessful cataract operations according to Steffen. He has found only a very few cases mentioned in accessible literature during the war, while many comment on the rarity of the sympathetic involvement of the other eye. These facts justify conservative treatment of the wounded eye, unless one's hand is forced by irritation and pain. It is much better, he thinks, to retain the eyeball, even with vision entirely lost, than to be forced to depend on a complete prothesis. He is inclined to ascribe the rarity of sympathetic ophthalmia nowadays to the asepsis and antisepsis which are now so generalized, adding that the day when operators will take as many precautions before opening an eye as for a laparotomy, post-operative sympathetic ophthalmia will very nearly disappear completely. All the wounded in the war are placed at once in hospitals where the discipline of asepsis reigns, and there is no need to remove a wounded eye for the sole reason of warding off sympathetic ophthalmia. There is no hurry; one can at least wait a few days. If the eye ball has to be sacrificed, he advises exenteration as giving a better stump, while it offers fully as many guarantees against sympathetic ophthalmia as enucleation.

#### CHRONIC DACRYOCYSTITIS AND ITS TREATMENT.

Much has been written, many procedures have been suggested, but little of real value has been brought forward making the treatment of dacryocystitis satisfactory. The multiplicity of treatments is marked evidence of their failure to give general satisfaction. The passage of sounds is far from agreeable either to patient or physician. The newer operations, such as the West and Clark, except in the hands of skilled rhinologists, have left much to be desired. Styles have not met with universal favor and extirpation is not without its drawbacks. The same might be said of Gifford's obliteration method with trichloroacetic acid. Drainage along a silk cord has appealed to some as meeting the requirements with a minimum of traumatism. Searcy described such a procedure some months ago. Pond, of Brooklyn (*Med. Record*, June 2, 1917) has been using a similar method since 1899, which has proven simple and satisfactory with him. There is but one probing. The silk acts as a drain and carries



also medication to the parts. Pond states that one thing is sure, viz.: if after having worn the silk the time allotted by the operator's judgment, not more than two weeks, there is still epiphora, probing will do no good and the sac operation may be resorted to for a cure. There are certain contraindications as obliteration of the nasal duct from cicatrices, or implication of bone as in sinking in of the nose in syphilis. The technic is as follows: A long silver probe with one end blunt and the other having an eyelet large enough to carry a coarse silk suture, is threaded and passed through the canal and into the nose, where the end is grasped by a pair of forceps and drawn out through the nostril. The probe is unthreaded and the silk left in position with the ends tied together. The silk is worn a week, being drawn through the nose two or three times a day. A large knot is made and when this is pulled through the canal it makes a large opening. The canaliculus is slit. Cocaine anæsthesia is used. There is no pain to the operation or the turning of the silk. In abscess of the sac the silk gives good drainage, obviating the necessity of an opening on the cheek. After the silk is in position 10 per cent. tincture of iodine is used daily. (Pond does not state how he uses this latter). The string is covered and protected by gauze held in place with adhesive plaster. Early operation before atony and dropsy of the sac have developed is strongly advised.

#### CHRONIC NEPHRITIS SIMULATING THE SYMPTOMS OF CEREBRAL NEOPLASM.

Collins, of New York, gives a case history the distinctive feature of which is the similarity of the symptoms to that of brain tumor. The patient suffered with chronic nephritis. There was a history of head trauma. Tumor had of necessity to be excluded. The classical signs of tumor were present, headache, vertigo, vomiting and choked disc. Collins refers to the paucity of references to this condition. He thinks the choked disc constitutes the unusual condition. Spinal puncture in the case recorded proved the cerebrospinal fluid to be under considerable pressure. It is worthy of note, the writer states, that it has frequently been remarked that the cerebrospinal fluid comes out under pressure in cases of anæmia attended by "optic neuritis." It is quite possible to have a neoplasm develop in a person who has chronic nephritis. (And it is also possible to have a fundus picture typical of nephritis, stellate figure, etc., in a brain tumor

case). If papilloedema is the result of increased pressure of fluid in the vaginal sheath of the optic nerve, the pressure may in this case be the manifestation of œdema, such as occurs in other parts of the body, constantly in chronic nephritis. [This theory has been touched on and the subject of "renal choked disc" been discussed in a paper, by the reviewer, published in this Journal December, 1916.]

---

## BOOK REVIEW.

---

THE FUNDUS OCULI OF BIRDS. A Study in Comparative Anatomy and Physiology. By Casey Albert Wood. Illustrated by 145 drawings in the text, also by 61 colored paintings prepared for this work by Arthur W. Head, F. Z.S., London. Chicago, The Lakeside Press, 1917.

For years the author has studied the eyegrounds of birds and other animals in different countries with great zest. Now he has greatly enriched science by the publishing of his results in this simply magnificent atlas. The conclusions which he has reached are very interesting, especially, No. 12. As the colored pictures seen in the "fundi of healthy birds are invariable in species, these appearances may well furnish data for a classification of Aves ranking in importance with other Taxonomic indications.

No. 13, Ophthalmoscopy throws light on the origin of birds or at least on their relation to that Sauropsidian ancestry which they hold in common with Reptilia.

No. 14. In future no report upon a particular avian species can be held complete that ignores the visual apparatus, and especially the appearances of the fundus oculi, is shown by the ophthalmoscope."

The line illustrations in black and white concerning the pectens, the maculæ and foveæ, etc., are very good and clear. The colored fundus illustrations are of the very best.

While we know that the publications resulting from such special work, having involved infinite labor, time and expense, are unremunerative, the author of this beautiful work can certainly feel that, besides the personal satisfaction which work well done always gives to the worker, he has the high appreciation and the thanks of all those able to esteem this work at its proper valuation.

ALT.